What is claimed is:

1. An isolated, vertebrate nucleic acid molecule of bcl-6 locus.

2. A DNA molecule of claim 1.

3. A cDNA molecule of claim 2.

4. A genomic DNA molecule of claim 2.

5. An RNA molecule of claim 1.

6. A human nucleic acid molecule of claim 1.

7. A nucleic acid molecule comprising a nucleic acid molecule of at least 15 nucleotides capable of specifically hybridizing with a sequence included within the sequence of the nucleic acid molecule of the bcl-6 locus.

8. A DNA molecule of claim 7.

9. An RNA molecule of claim 7.

10. An isolated, vertebrate nucleic acid molecule of claim 3 operatively linked to a promoter of RNA transcription.

11. A vector which comprises the nucleic acid molecule of claims 2 or 10.

12. A vector of claim 11, wherein the isolated nucleic acid molecule is linked to a plasmid.

13. The nucleic acid molecule of claim 12 designated

pGB31 (ATCC Accession No. 75476).

14. The nucleic acid molecule of claim 12 designated pGB3s (ATCC Accession No. 75477).

15. A host vector system for the production of a polypeptide encoded by bcl-6 locus, which comprises the vector of claim 11 in a suitable host.

16. A host vector system of claim 15, wherein the suitable host is a bacterial cell, insect cell, or animal cell.

17. A method of producing a polypeptide encoded by bcl-6 locus, which comprises growing the host vector system of claim 11 under suitable conditions permitting production of the polypeptide and recovering the polypeptide so produced.

18. A polypeptide encoded by the isolated, vertebrate nucleic acid molecule of claim 1.

19. An antibody capable of binding to polypeptide encoded by bcl-6.

20. A monoclonal antibody of claim 19.

21. A polyclonal antibody of claim 19.

22. The isolated nucleic acid molecule of claim 1 that is labelled with a detectable marker.

23. The isolated nucleic acid molecule of claim 22, wherein the marker is a radioactive label, a calorimetric, luminescent, or a fluorescent

marker.

24. An antagonist capable of blocking the expression of claim 18.

25. The antagonist of claim 24, wherein the antagonist is a triplex oligonucleotide capable of hybridizing to nucleic acid molecule of claim 1.

26. An antisense molecule capable of hybridizing to the nucleic acid molecule of claim 1.

27. The antisense molecule of claim 26, wherein the molecule is a DNA.

28. The antisense molecule of claim 26, wherein the molecule is a RNA.

29. A triplex oligonucleotide capable of hybridizing with a double stranded DNA molecule of claim 2.

30. A transgenic nonhuman mammal which comprises the isolated nucleic acid molecule of claim 1 introduced into the mammal at an embryonic stage.

31. An assay for non-Hodgkin's lymphoma, comprising (a) incubating a sample of suitable body fluid for a subject with a monoclonal antibody reactive with non-Hodgkin's lymphoma cells to a solid support, (b) removing unbound body fluid from the support, and (c) determining the level of antigen activity exhibited by the bound body fluid to the support.

32. A method for screening putative therapeutic

agents for treatment of non-Hodgkin's lymphoma, which comprises determining in a first sample from a subject with non-Hodgkin's lymphoma the presence of the isolated nucleic acid molecule of claim 1, administering to the subject a therapeutic amount of the agent such that the agent is contacted with the cell associated with the condition, determining after a suitable period the amount of the isolated nucleic acid molecule in a sample from the treated subject, and comparing the amount of isolated nucleic acid molecule determined in the first sample with the amount determined in the sample from the treated subject, a difference indicating the effectiveness of the agent, thereby screening putative therapeutic agents for treatment of non-Hodgkin's lymphoma.

33. A method for diagnosing B-cell lymphoma in a subject comprising:

(a) obtaining DNA sample from the subject;
(b) cleave the DNA sample into fragments;
(c) separating the DNA fragments by size fractionation;
(d) hybridizing the DNA fragments with a nucleic acid molecule comprising a nucleic acid molecule of at least 15 nucleotides capable of specifically hybridizing with a sequence included within the sequence of the nucleic acid molecule of the bcl-6 locus to detect the DNA fragment containing the bcl-6 sequence; and
(e) comparing the detected DNA fragment from (d) with the DNA fragment from a known normal subject, the difference in size of the fragments indicating the occurrence of B-

cell lymphoma in the subject.

34. A method of claim 33, where in step (b), the DNA sample is cleaved by restriction enzyme.

35. A method of claim 33, wherein the size fractionation is step (c) is effected by a polyacrylamide or agarose gel.

36. A method of claim 33, where in step (d), the nucleic acid molecule is labeled with a detectable marker.

37. A method of claim 36, wherein the detectable marker is a radiolabelled molecule, a fluorescent molecule, an enzyme, or a ligand.

38. A method of claim 33, further comprising transferring the DNA fragments into a solid matrix before step (d).

39. A method for diagnosing B-cell lymphoma in a subject comprising:

(a) obtaining RNA sample from the subject;
(b) separating the RNA sample into different species by size fractionation;
(c) hybridizing the RNA species with a nucleic acid molecule comprising a nucleic acid molecule of at least 15 nucleotides capable of specifically hybridizing with a sequence included within the sequence of the nucleic acid molecule of the bcl-6 locus to detect the RNA species containing the bcl-6 sequence; and
(d) comparing the detected RNA species from step (c) with the RNA species from a known normal

subject, the difference in size of the species indicating the occurrence of B-cell lymphoma in the subject.

40. A method of claim 39, wherein the size fractionation in step (b) is effected by a polyacrylamide or agarose gel.

41. A method of claim 39, where in step (c), the nucleic acid molecule is labeled with a detectable marker.

42. A method of claim 41, wherein the detectable marker is a radiolabelled molecule, a fluorescent molecule, an enzyme, or a ligand.

43. A method of claim 39, further comprising transferring the RNA species into a solid matrix before step (c).

44. A method of treating a subject with non-Hodgkin's lymphoma, comprising administering an effective amount of the antisense molecule of claim 26 operatively linked to a suitable regulatory element coupled with a therapeutic DNA into a tumor cell of a subject, thereby treating the subject with non-Hodgkin's lymphoma.

45. A method of treating a subject with non-Hodgkin's lymphoma, comprising administering an effective amount of the antagonist of claim 23, and a suitable acceptable carrier, thereby treating the subject with non-Hodgkin's lymphoma.